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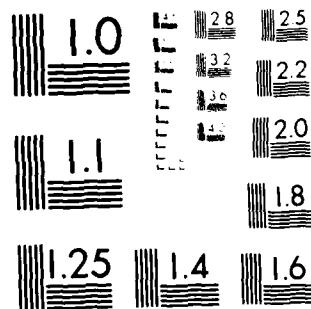
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Relational Propositions in Discourse

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In addition to the propositions represented explicitly by independent clauses in a text, there are almost as many implicit propositions, here called relational propositions, which arise out of combinations of these clauses. The predicates of these propositions are members of a small set of general, highly recurrent relational predicates, such as "cause," "justification," and "solutionhood." Often un signalled, these relational propositions can be shown to be the basis for other inferences and to function as elements of communicative acts. Examining two natural texts, we see that the relational propositions involve every clause, and that they occur in a pattern of propositions which connects all of the clauses together. This examination also shows how the relational propositions are essential to the functioning of the text.

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Relational Propositions in Discourse

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ABSTRACT

In addition to the propositions represented explicitly by independent clauses in a text, there are almost as many implicit propositions, here called relational propositions, which arise out of combinations of these clauses. The predicates of these propositions are members of a small set of general, highly recurrent relational predicates, such as "cause," "justification," and "solutionhood." Often un signalled, these relational propositions can be shown to be the basis for other inferences and to function as elements of communicative acts. Examining two natural texts, we see that the relational propositions involve every clause, and that they occur in a pattern of propositions which connects all of the clauses together. This examination also shows how the relational propositions are essential to the functioning of the text.

1. INTRODUCTION

Consider the following pair of (made-up) texts:¹

I love to collect classic automobiles. My favorite car is my 1899 1 Duryea.

I love to collect classic automobiles. My favorite car is my 1977 2 Toyota.

The first of these texts "works," the second doesn't. Why? Pretheoretically, we can make several observations about this pair of examples:

- The two texts differ in coherence.
- The difference in coherence comes because we can accept the 1899 Duryea, but not the 1977 Toyota, as a classic automobile.
- Nothing in either of these two texts says literally that either of these cars is a classic automobile, but something about each text as a whole makes the issue of their being classic automobiles part of the subject matter of the text.

In this paper we organize these observations with other similar ones, recognizing them as symptomatic of a pervasive phenomenon which accompanies the reading of texts, and assessing their status relative to current linguistic theories.²

Clearly, in our roles as readers interpreting these texts, we begin with the assumption that what we have in each case is a text, that is, that it forms a coherent whole. This assumption of coherence, that parts of a text "go together," can be seen as a rough linguistic analogue of the general cognitive ability described by Gestalt psychology under the name "closure," the ability to

¹We are grateful to the following people for valuable discussion on many of the ideas in this paper: Marianne Celce-Murcia, Barbara Fox, Peter Fries, Joseph Grimes, Jerry Hobbs, Robert Kirsner, Jay Lemke, Robert Longacre, Christian Matthiessen, Elinor Ochs, Phillip Staines, and David Weber, and we especially want to acknowledge the early influence of Barbara Boyd and Jerry Hobbs on this work. Responsibility for infelicities remains entirely our own. Authorship of this paper is shared equally.

²Although we begin by using constructed examples for convenience in describing the phenomenon, it is a phenomenon of natural texts. The relations were all discovered in the process of systematic study of natural text; near the end of this paper the phenomenon is exhibited extensively in natural texts.

impose connectivity on disconnected parts of a visual image. In this case we assume more than connectivity; we also assume that there was a writer and that the writer intentionally wrote the text.³

This assumption excludes the possibility that the parts of the text came together by some process (such as alphabetic sorting of sentences) for which interpreting them as mutually relevant is inappropriate.

In the case of examples 1 and 2, in addition to the propositions expressed by each of the two parts of these texts, another implicit proposition arises from the assumption that each of these examples is a text, namely that the proposition expressed in the second part is an instance of the generalization expressed by the first part.⁴ This implicit proposition, of course, is what makes the Toyota example anomalous.

We decompose propositions into predicates and their arguments, naming the predicates mnemonically.⁵ For example, we call the predicate which arises in the proposition in examples 1 and 2 the "elaboration" predicate (see Section 2.8). Such decompositions and namings are debatable, of course; there may be, for example, finer subdivisions and other reorganizations which could be made. However, for our purpose of identifying and organizing observations about the phenomenon, they are a useful step even if they are later found to embody theoretical problems.

The type of text-conveyed information that we are interested in, in this paper, then, is the *relational proposition*, which arises (in the hearer's tacit awareness) (see Section 3.3.4) from two parts of a text but is not independently derived from either of these parts. The phenomenon is, in other words, a *combinational* one, defined on two parts of a text. These relational propositions arise between portions of the text, allowing people to perceive relationships between parts of a text even though each of these parts may be longer than one sentence. Characterizing and exploring these "relational propositions" is a primary goal of this paper. Our discussion will be based on English, because it is the language whose discourse structure we control best. We strongly believe that texts produced in other languages will reveal similar relational propositions, although we do not expect them to be identical to those of English since the details of the phenomenon seem to be strongly culture-bound. In fact, we predict that cross-linguistic differences in relational propositions are responsible for certain cross-cultural misunderstandings.

Our investigation takes as its starting point the "relations between propositions" of Beekman and Callow [Beekman and Callow 74], the "rhetorical predicates" of Grimes [Grimes 75], and the "relations between predication" of Longacre [Longacre 76], each of whom proposed a number of relationships to hold between propositions in a discourse. Grimes has shown that relationships of this type are themselves propositional. We show in addition that they are involved in a distinct kind of communicative act, ranking with implicature and indirect speech acts as a variety of implicit

³See [Levy 79] for a similar point. We use interchangeably the terms "writer" and "speaker," on the one hand, and "reader" and "hearer," on the other.

⁴The term "proposition" here is used in a broad, relatively nontechnical way. It includes in its scope anything which can be asserted, and also certain things which can be asked but not asserted, as in "Who's in the kitchen?"

⁵Calling the parts predicates and arguments follows common notational conventions. It does not commit us to employing any specific logical apparatus such as a particular predicate calculus.

communicative expression.⁶

Before going on to discuss the range of phenomena with which we will be concerned, we wish to make clear that we are talking about relationships between parts of texts, each potentially containing many clauses, not just between adjacent clauses. Some of the relationships found between larger parts of a text can also be found between clauses, but, since we are interested in what makes texts work, we have no reason to restrict our investigation to the latter. Also, where a relational proposition establishes a relation between parts of a text, the arguments of the relational proposition are not the literal text portions being related, but rather are more conceptual entities derived from those text portions.

2. A WIDER RANGE OF CASES

To demonstrate the reality of the phenomenon we have been discussing, and to provide an idea of its range, we present next a number of examples exhibiting relational propositions.

In the "classic automobile" examples above, we saw that

1. an implicit proposition was conveyed by the text as a whole, but not made explicit in any part;
2. recognizing the implicit proposition depended on regarding the text as one text, i.e., as a communicative entity consisting of a purposefully constructed sequence of linguistic expressions;
3. the proposition was used in a way which resembles assertion.

We will elaborate on these attributes below in Section 3. We now present additional examples which all share these properties. The "classic automobile" examples involved a predicate of "elaboration"; this and a number of other predicates are identified and described below.

2.1 Solutionhood

Consider this example:

I'm hungry. Let's go to the Fuji Gardens.

3

As will be discussed in detail below, a number of inferences arise from the assumption that this text is coherent, such as that the Fuji Gardens is a restaurant, or that I like Japanese food.⁷ The relational proposition conveyed by this text, however, is that the second part provides a solution to the problem posed by the first part of the text.⁸

⁶ Just as with the term "proposition," we will use the terms "act" and "predicate" in relatively nontechnical ways, since at this point we want to identify the phenomenon rather than to provide a complete theory of it. We use the metaphorical terms "arise," "evoked," and "perceived" as above, but later ground them in a much less metaphorical base (Section 3.3).

⁷ The sense of "inference" is the vernacular sense of a conclusion which people might regard as likely on the basis of reading the text. It is an expression of plausibility, and it does not presume any particular methods of drawing conclusions from texts. We note that in this paper we will sometimes talk about relational propositions from the interpreter's point of view, as we do here, by referring to "inferences" and sometimes from the point of view of the speaker, as below in Section 3.3, where we refer to them as being involved in communicative acts.

⁸ This relationship is similar to what Grimes [Grimes 75] termed "Response."

Consider another example:

Do you want to get your Easter tan early, even in the rain? Come 4
to the TANNING CONNECTION in Sherman Oaks.

This text, obviously reminiscent of an advertisement in our culture, also conveys that the second part of the text is intended as a (possibly partial) solution to the problem posed by the first part. The predicate of the propositions in these two examples is called "solutionhood."⁹

2.2 Evidence

On one interpretations of the following text, the second part provides evidence for the claim put forth in the first part:

They're having a party again next door. I couldn't find a parking 5
space.

Another example might be this modified version of one of those presented in [Grice 75]:

Smith seems to have a new girlfriend. He's been paying a lot of 6
visits to New York lately.

Here again, one part of the text is offered as evidence for the claim put forth in the other part.

This category (identical to Grimes' "evidence" rhetorical predicate) includes instances in which the evidential portion of the text rationalizes not the event named in the other portion, but the speaker's belief that that portion is true,¹⁰ as in:

Jenny's not coming. Her mother just called from San Diego. 7

Here, of course, Jenny's mother calling does not give the reason for Jenny's not coming, but rather provides evidence for my claim that she isn't coming.¹¹

2.3 Justification

When one part of a text explicitly attempts to establish the appropriateness or acceptability of performing speech act(s) performed by the other part, we have a relationship of "justification." In the following examples, the first portion of each text seeks to establish for the speaker the social right to perform the speech act in the second portion of the text:

I'm Officer Krupke. You're under arrest. 8

I'm the moderator of this meeting. Your motion is out of order. 9

Let me make one thing perfectly clear. I am not a crook. 10

⁹ Here and subsequently, the names of relationships are the names of predicates.

¹⁰ This relationship has been referred to as an "internal" as opposed to an "external" cause relationship by Halliday and Hasan [Halliday & Hasan 76] and Martin [Martin 83]. "Internal relationships" are also discussed in [Rutherford 70] under the heading of "non-restrictive" adverbial clauses.

¹¹ This relation, as well as several others described below, could be subdivided into types or possibly unified with another. A detailed study of how the relations are themselves related would be very interesting and worthwhile, but it is outside the scope of this paper. We expect that such a study would refine our definitions of the individual relations, clarify their roles in communication, and show how they relate to other attempts to organize such phenomena.

2.4 Motivation

A "motivation" relationship arises in directive text, where it is often deemed advisable to provide the addressee with motivation for complying with the directive. The "motivation" relationship is frequently found in advertisements. Here is an example:

Take Bufferin. The buffering component prevents excess stomach acid. 11

A non-advertising example of "motivation" might be:

Go jogging with me this afternoon. You'll be full of energy. 12

2.5 Reason

A relationship of "reason" (similar to the rhetorical predicate called "explanation" by Grimes) can be distinguished from one of "justification" (see Section 2.3 above) in the following way: While "justification" arises in a text where one part justifies the speech act performed in the other part, "reason" arises in a text where one part provides a rationale for believing the proposition expressed in the other part. Examples include text 13, adapted from an example of Grimes', and text 14:

I'm not going to start learning Dutch. You can't teach an old dog new tricks. 13

I'm going to the corner. We're all out of milk. 14

Both of these examples illustrate the generalization that the way in which one part of the text can be taken as a rationale for another can involve many inferential steps.

The relations of "evidence," "justification," "motivation," and "reason" have proven to be easy to confuse. Figure 2-1 sketches an easy method of discrimination. "Evidence" is discriminated from the others on the basis that all of the others address an action, but "evidence" does not. "Justification" is discriminated from the remainder in that it addresses a speech action found within the same text, while the others do not. "Motivation" addresses a future action by the reader, whereas "reason" does not.

2.6 Sequence

A relationship of "sequence" has been noticed by many discourse researchers. It arises when the two parts of the text convey events, where the second is understood to follow the first. Text 15 is an example:¹²

The huge rod was released at an altitude of about 6 miles. It struck with such force that it buried itself deep into the ground. 15

2.7 Enablement

Another relationship often found in directive texts is "enablement," in which one part of the text provides information that enables the addressee to comply with the directive:

Could you open the door? Here's the key. 16

¹²The "sequence" relationship obviously has something to do with the order in which the events are presented. Other relationships, such as "elaboration" (see examples 18, 19, and 20), appear to be independent of order. In this paper we do not pursue such questions of the effect of order on the interpretations of relational propositions.

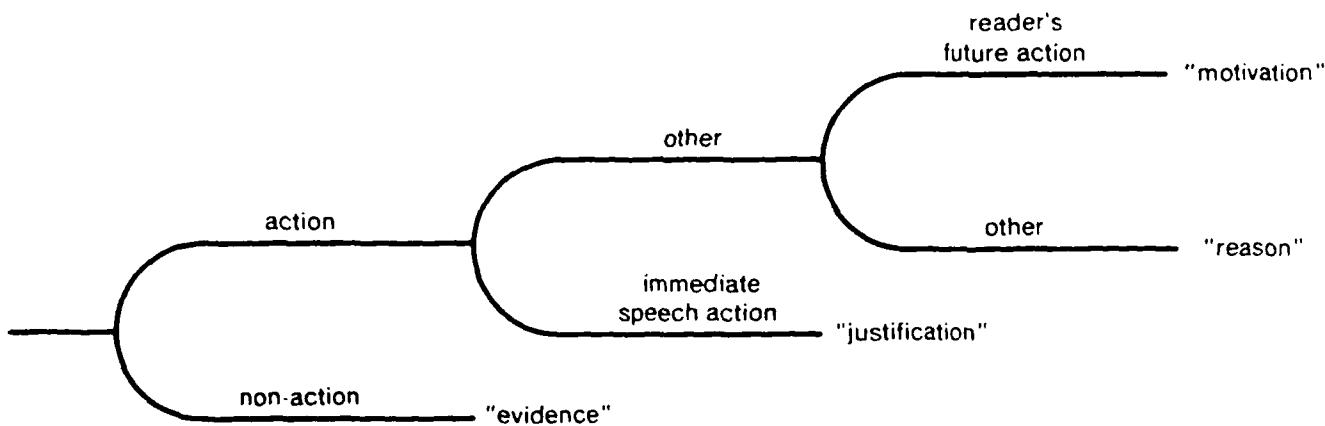


Figure 2-1: Discriminating four relations

Example 17 shows that "enablement" relationships also occur in texts which make offers:

I'll give you a free tour of the development. My phone number is 17
555-9876.

2.8 Elaboration

This relationship, which we call "elaboration," is reminiscent of one termed "specifically" by Grimes [Grimes 75]. Here, part of the text elaborates or further specifies the concepts conveyed by the other part. There are at least two sub-types of "elaboration": one part of the text can convey an abstraction or a generalization while the other part conveys a specific instance of that abstraction or generalization, or one part of the text can convey a process while the other part conveys a step in that process. Examples 18 and 19 illustrate the first sub-type: in 18 the generalization precedes the specific instance, while in 19 the specific instance comes first:

I'm unhappy about your performance. You come in drunk and you 18
insult the busboy.

I like ice cream. I really have a sweet tooth. 19

The "classic automobile" examples we considered at the very beginning of this paper are also of this type.

In 20 we see an example of an "elaboration" relationship in which a step is an elaboration of a process:

I'm going to the library. I'll look for *Cohesion in English*. 20

2.9 Restatement

In example 21, the second part of the text restates the first part:

I'm a pacifist. I'm opposed to all war. 21

The predicate is "restatement."

2.10 Condition

A "condition" relationship arises from a text such as the following:

Give her a subscription to Science magazine. She'll be in seventh 22 heaven.

One proposition provides the condition under which the other proposition holds.

2.11 Circumstance

A "circumstance" relationship holds between two parts of a text if one of the parts establishes a circumstance or situation, and the other part is interpreted within or relative to that circumstance or situation.¹³ Example 23, adapted from Hobbs [Hobbs 79], illustrates this relational proposition:

I went hitchhiking in Norway. Nobody would pick me up. 23

Other examples:

He walked slowly toward the bus station. He was thinking about 24 the fight he'd had with Ken earlier that morning.

She got ready to go into the dive. Her hands were cold and 25 clammy.

2.12 Cause

The "cause" relationship holds where one portion of a text presents a cause for a condition conveyed by the other portion. Similar to "sequence," the "cause" relationship arises in a text whose parts name events; in fact, there are many cases where both relationships hold. Example 26 provides an illustration:

It costs too much to buy a house in California. We're going to 26 have to rent an apartment.

Other examples of "cause" include:

There were landslides in Malibu last week. Four houses went down 27 the hill.

I went riding last week. I was sore for three days. 28

The highway department set up a jackhammer in my parking place. I 29 took two Fizzy-Seltzers.¹⁴

Where "sequence" and "cause" co-occur, and indeed in general, where several relational propositions arise from the same two parts of the text, they need not all have the same communicative status. For example, they may not all have the same role in creating the coherence of the text.

¹³This relational proposition is similar to Grimes' "setting" (p. 218) and "manner" (p. 217) relationships.

¹⁴From [Grimes 75], p. 223.

2.13 Concession

The "concession" relationship arises when a speaker acknowledges, in one part of the text, the truth of a point which potentially detracts from a point in another part of the text. This relationship is typically signalled by forms such as although.¹⁵ Here is an example of a nonsignalled "concession" relationship.

I know you have great credentials. I'm looking for someone with 30 great experience.

2.14 Background

Sometimes one part of a text provides background information without which the other part of the text cannot be adequately comprehended. As one example, consider a situation in which the speaker, a faculty member at a certain university, is speaking to someone at a rival institution.

Hayes just resigned. He's our chancellor.

31

Here the hearer infers that the speaker assumes the information in one part of the text to be in some way requisite to an understanding of the information in the other part; the relationship is called "background."

2.15 Thesis-Antithesis

The "thesis-antithesis" relationship arises when two conceptions are contrasted, the speaker committing to one and decommitting from the other, as in this example:

Players want the referee to balance a bad call benefiting one team 32 with a bad call benefiting the other. As a referee, I just want to call each play as I see it.

Here the speaker is not identifying with the notion that referees should balance bad calls (the "thesis") but is identifying with the idea of calling each play as he sees it (the "antithesis"). The relational proposition might be stated as follows: "On the basis of salient differences between the referee balancing bad calls and his calling each play as he sees it, I identify with the latter and do not identify with the former."

Here is another example:

This book claims to be a guide to the trees of Indiana. It doesn't 33 even have oak trees in it.

Again, the speaker contrasts the idea of the book's being a guide to Indiana trees, which he or she does not identify with, and its failure to mention oak trees, which he or she does identify with.

Unlike most other relational propositions we have been describing, this one is typically signalled in some way. But there is a wide variety of ways in which the contrast between idea-not-identified-with and idea-identified-with can be signalled, ranging from *Players want* in example 32 through "distancers" such as *claims to be* (as in 33) to outright negatives, as in this example:

We don't want orange juice. We want apple juice.

34

¹⁵A relationship is *signalled* if there is some word, morpheme, or other structural feature whose function includes expressing the relationship. See Section 3.2 for a discussion.

The "thesis-antithesis" relationship, then, illustrates very well what is true to a lesser extent of many of the other relational predicates we have been discussing: (1) no structural feature is used solely to signal the relationship, and (2) no structural feature always accompanies the relationship.

The examples above show that, while the speaker's non-identification with the "thesis" can often be inferred from the portion of the text in which that thesis is expressed, the relationship of dual contrast of content and identification between a thesis and an antithesis is a combinational one.

2.16 An Afterview

Table 2-1 shows the names of the relational predicates found in the examples above.

Table 2-1: A List of Relational Predicates

1. solutionhood
2. evidence
3. justification
4. motivation
5. reason
6. sequence
7. enablement
8. elaboration
9. restatement
10. condition
11. circumstance
12. cause
13. concession
14. background
15. thesis-antithesis

It is clear from the list that there is diversity in the information conveyed by relational predicates. Claiming "solutionhood," for example, is quite a different thing from claiming "cause" or "evidence."

The set of relational predicates (the predicates upon which relational propositions are based) seems to be small. We do not believe that the list in Table 2-1 is exhaustive; however, on the basis of applying it to natural texts, it seems reasonably comprehensive.

3. CHARACTERIZING RELATIONAL PROPOSITIONS

Having provided a representative set of examples of the relational proposition phenomenon, we would now like to go on to demonstrate that

1. relational propositions are relatively "basic," in the sense that there is a tendency for many other sorts of inferences to be derived from them, but they tend not to be derived from other sorts of inferences.
2. relational propositions arise in a text independently of any specific signals of their existence.

3. relational propositions are involved in communicative (or illocutionary) "acts," in the sense of "speech acts" [Searle 69];
4. relational propositions are not confined to organizational aspects of texts.
5. relational propositions are essential to the effective functioning of a text.

Let us examine each of these properties of relational propositions in more detail.

3.1 Relational propositions are "basic"

Speaking loosely, without invoking any particular view of how to represent the derivation of propositions, we can regard relational propositions as one of the many varieties of inferences which people regularly derive from texts. In this section we endeavor to show that relational propositions are more basic than other types of inferences in the sense that, when we judge (among several implicit propositions arising from one text) which propositions are plausibly derived from which others, the nonrelational propositions tend to be derived from the relational propositions, but not vice versa. That is, given a pair of inferences from a given text, one of which is a relational proposition and the other of which is not, the relational proposition appears to be part of the reasoning behind the other inference, but not the other way around.

To show this, let's consider text 3 again:

I'm hungry. Let's go to the Fuji Gardens.

There are several inferences which could arise as plausible conclusions suggested by this text, as indicated in Table 3-1 below. Obviously, many more could be added.

Table 3-1: Inferences in Fuji Gardens

1. Our going to Fuji Gardens is a (partial) solution to my problem of being hungry.
2. I cannot eat here.
3. I want to be somewhere where I can eat.
4. I want to go to somewhere where I can eat.
5. The Fuji Gardens is an eating establishment.
6. I like Japanese food.
7. I do not mind eating raw fish.
8. I am partial to Japanese beer.
9. I can use chopsticks.

Notice that the relational proposition for text 3 is the first one on this list. The list is ordered so that, according to informal judgments of deduction in ordinary circumstances, no item is derived from an item below it.

The table shows that a number of implicit propositions could arise from this text. One of them, the relational proposition, asserts that going to the Fuji Gardens is a partial solution to the problem of being hungry. The point we wish to make in this section is that the other inferences on this list depend on the perception of this "solutionhood" relationship between the two parts of the text. Thus,

for example, the propositions that I like Japanese food or that I can use chopsticks from text 3 depend on the Fuji Gardens being part of a solution to the hunger problem. The inference of a "solutionhood" relationship, on the other hand, doesn't depend on whether I like Japanese food or can use chopsticks. I might, for example, rather dislike Japanese food, but be willing to go to the Fuji Gardens because it is close. Or I might not be able to use chopsticks and be planning to ask for a fork when I arrive. In either of these cases, going to the Fuji Gardens is still being proposed as a solution to the problem of being hungry.

Since the "solutionhood" proposition is not derived from any other proposition in Table 3-1 (as indicated by its position), it is the most basic of the list.

It is in this sense, then, that relational propositions have the property of being "basic": other inferences depend on them in cases where they do not depend on those other inferences.

The basic quality of the "solutionhood" relational proposition holds even if eating is not taken as the solution to the problem of being hungry. For example, suppose that I am on a diet and want to think of ways to divert myself from thinking about food whenever I get hungry. I could very well say text 3 under those conditions if the Fuji Gardens were a bonsai exhibition rather than a restaurant. Without such special conditions, of course, the normal interpretations would be the one in which the Fuji Gardens is a restaurant; our point is that it is not necessary to associate hunger with eating for the "solutionhood" predicate to hold, since going to the Fuji Gardens is understood as a solution to the problem of being hungry whether it is a place for eating or a place for being distracted. The "solutionhood" proposition is common to both interpretations.

Nearly all of the propositions in Table 3-1 are involved with eating, which is one particular mode of solving the hunger problem. The fact that propositions 2 through 9 in Table 3-1 become highly implausible under this alternate interpretations (of solution by distraction) gives further evidence that they are all derived from the most basic one, the relational one (along with its restriction to a particular kind of solution), since the derivation seems to proceed from solutionhood, to a particular kind of solutionhood, to the remaining inferences. Of course, there may be other inferences equally basic, more basic, or incomparable in the ways they are basic to the "solutionhood" inference, but among those inferences we can readily identify, the "solutionhood" inference is relatively basic.

As another example of the relative basicness of relational propositions as compared to other types of inferences which texts can give rise to, let's consider example 23 again:

I went hitchhiking in Norway. Nobody would pick me up.

From this text one could draw the inference that the speaker sees Norwegians as unfriendly, but this inference depends on the "circumstance" relational proposition, according to which it was in Norway that nobody would pick the speaker up. The "circumstance" relational proposition, on the other hand, depends in no way on the inference that Norwegians are unfriendly; there may be many other inferences compatible with the failure of the Norwegians to pick up the speaker, such as that they are all too cautious, albeit friendly when you get to know them. The "circumstance" relational proposition (that the failure to be picked up occurred in Norway) stands undisturbed no matter which (if any) of these conclusions about Norwegians is drawn.

Closely related to the fact that relational propositions are basic is the fact that languages have

developed conjunctions to signal many of the relationships they convey. The fact that every language has conjunction morphemes analogous to *because*, *therefore*, *however*, etc., whose sole function it is to mark relationships between the conceptions conveyed by two parts of a text, testifies to the significance of these relationships in organizing discourse. We will return to this point in the next section.

In this section, then, we have shown that relational propositions tend to be more basic than other sorts of inferences arising from texts. Other inferences may be derived from relational propositions or may be neutral with respect to them, but relational propositions do not usually depend on other, more basic inferences.

3.2 Relational propositions arise independently of any specific signals of their existence

Here we will show that relational propositions need not be signalled; that is, there need be no structural feature in the text whose function includes expressing these relationships.

Let's return to example 3 once again:

I'm hungry. Let's go to the Fuji Gardens.

As we suggested above in Section 2.1, the natural relational proposition for this text is the one which asserts that going to the Fuji Gardens is intended as a solution to the hunger problem posed in the first part of the text. The relationship of "solutionhood" is clearly not contained in or signalled by anything in either of the parts of this text.

It is important to note that some of the same relationships conveyed by relational propositions may be signalled by conjunctions or subordinators, as mentioned above. Thus, for example, it is clear that the "cause" relationship that is conveyed implicitly in text 26:

It costs too much to buy a house in California. We're going to have to rent an apartment.

can be conveyed explicitly by means of a conjunction such as *consequently* or *so*, as in these examples:

It costs too much to buy a house in California. Consequently we're 35 going to have to rent an apartment.

It costs too much to buy a house in California, so we're going to 36 have to rent an apartment.

This possibility highlights the importance of these relationships in language, since every language seems to have developed a set of morphemes, words, or phrases by which some subset of these relationships can be conveyed. Our intention here, though, is to make it clear that these relationships may be, and indeed often are, conveyed independently of any explicit material actually in the text. A glance at the examples in Section 2, as well as the texts in Section 6, will demonstrate that this is the case.

Are there other, more subtle attributes of form in text which might be signalling the relations in the absence of conjunctions or subordinators? For example, could the sequence of declarative mood followed by imperative mood be signalling "solutionhood" in example 3? We doubt that there are such signals expressed in text form, on several grounds. Such patterns are not recognized in the way that *because* is recognized as representing these relations. Whatever other signals there are, they must be derivable from large units of texts as well as from single sentences, but large units of text can

have very diverse forms. We recognize that such patterns can be suggestive of a relation, or perhaps restrict the range of possible relations, but we do not believe that there are undiscovered signal forms, and we do not believe that text form can ever provide a definitive base for describing how relational propositions can be discerned. On the other hand, it is much more plausible that a functional characterization can be definitive. For example, a range of text which conveys a need or problem, followed by a range of text which conveys a plausible way to meet that need or solve that problem, might be sufficient to guarantee that a "solutionhood" relation would arise.

A second property of relational propositions, then, is that they arise independently of any explicit signals actually in the text.

3.3 Relational propositions are involved in communicative acts

Having shown that relational propositions arise regularly in texts, the issue of what role they play in the functioning of the text presents itself. That is, in precisely what way do they contribute to conveying the information a text conveys?

Our answer to this question is that relational propositions are involved in communicative (or illocutionary) acts; specifically, we will show in this section that texts have the force of either assertions, questions, or commands, where the propositional (act-neutral) part of any of these is the very relational proposition we have been talking about. We begin with an example of each and then proceed to show what the consequences of this claim might be.

Let's consider example 12 again:

'Go jogging with me this afternoon. You'll be full of energy.'

In this text, as in all of our previous examples, the relational proposition has assertional force; in this case it asserts a "motivation" relationship, stating something like this: "the expectation that you'll be full of energy is a suitable motive for you to decide to go jogging with me."

However, it is also possible to come up with texts in which the relational proposition is being questioned. Consider this example (from Christian Matthiessen):

I've been having toothaches. Should I water my plants more often? 37

Here, of course, the speaker is asking the question, "Will watering my plants more often solve my toothache problem?" The relational proposition can even be a question-word question:

I've been having toothaches. What should I do? 38

Again we see that the speaker is asking, "What should I do to solve my toothache problem?"

Similarly, relational acts may function as commands. In instructional or procedural texts, such as recipes, for example, there are constructions such as this:

Drop the batter from a spoon into the hot stock. Cover the pan closely. 39

where the relational proposition might be something like, "Drop the batter into the stock before you cover the pan closely."

There are at least four lines of evidence supporting the suggestion that relational propositions are involved in relational illocutionary acts.

3.3.1 Denial

The first line of evidence that relational propositions are being used in performing relational illocutionary acts is that denying an assertional relational proposition destroys the text. Thus if we take text 17 above:

I'll give you a free tour of the development. My phone number is 555-9876.

and add to it the denial of the relational proposition:

But calling that phone number won't help you to get the tour. 40

the denial destroys the coherence of the text. The fact that denials of assertional relational propositions produce incoherence supports the claim that those relational propositions are involved in acts with assertional force.

3.3.2 Redundancy

A second, closely related, line of evidence that relational propositions are parts of communicative acts, involves the appearance of redundancy, which results from adding a direct assertion (or question) having the same force as does the relational proposition. As an example, let's look again at Hobbs' text 23:

I went hitchhiking in Norway. Nobody would pick me up.

If we add to this text the assertion

It was in Norway that nobody would pick me up. 41

the text becomes redundant because the direct assertion restates the assertional force of the "circumstance" relational proposition.

As we might expect, redundancy is also produced by adding a direct question which carries the same force as a questioned relational proposition. Consider again example 37:

I've been having toothaches. Should I water my plants more often?

As we suggested above, the speaker is asking whether watering the plants more often will solve the toothache problem. If we add to this text a direct interrogative posing the same question, we again have a redundant text:

Will watering my plants solve the problem of having toothaches? 42

The fact that redundancy can be created by adding a direct assertion or question to the text adds further support to our contention that relational propositions are themselves communicated with the illocutionary force of assertions or questions.

3.3.3 Felicity

Third, the same kinds of preparatory and sincerity conditions (sometimes called "felicity conditions") hold for relational acts as hold for acts performed by single utterances [Searle 69].¹⁶ To see this, let's look again at Hobbs' example 23 above:

I went hitchhiking in Norway. Nobody would pick me up.

In addition to the assertions conveyed by the propositions in the text, the relational proposition, asserted only implicitly, is a "circumstance" one: the circumstances under which nobody would pick me up are relationally asserted to have been while I was hitchhiking in Norway.

Now, if this relationship is being asserted by this text, that is, if this relational proposition is an assertive illocutionary act, then the preparatory and sincerity conditions for assertions ought to hold for this relational proposition. According to Searle, these conditions can be stated as follows (pp. 66-67):

1. S has evidence (reasons, etc.) for the truth of P (preparatory condition # 1).
2. It is not obvious to both S and H that H knows (does not need to be reminded of, etc.) P (preparatory condition # 2).
3. S believes P (sincerity condition).

Applying these conditions to the relational proposition expressing the "circumstance" relationship, we see that they are met:

1. S has evidence that it was in Norway that nobody would pick him/her up if anyone wants to hear it.
2. It is not obvious that H already knows that it was in Norway that nobody would pick S up.
3. S believes that it was in Norway that nobody would pick him/her up.

If it were evident to the hearer that any of these conditions did not hold, the text would thereby become anomalous. That is, if the hearer did not think 1 held, the text would be unsupported; if he or she did not think 2 held, then the text would be redundant; if not 3, then it would be deceptive. In any of these instances, it would not be taken as a normal informative text, which is clearly the way that Hobbs assumed was evident in his original use of the example.

We can also show that the felicity conditions for questions hold for interrogative relational propositions. Recall again example 37:

I've been having toothaches. Should I water my plants more often?

The relational proposition, as we suggested above, is represented by the question "Will watering my plants more often solve my toothache problem?" It seems quite clear that this question has the same preparatory and sincerity conditions on its use as the above question uttered directly ([Searle 69], pages 66-67).

1. S does not know the answer (preparatory condition # 1): here, S does not know whether watering the plants will cure the toothaches.

¹⁶ There are many proposals of what the conditions are, we use Searle's primarily because it is familiar to many readers

2. It is not obvious that H will provide the information without being asked (preparatory condition # 2): here, H will not tell whether watering the plants will cure the toothaches.
3. S wants the information (sincerity condition): here, S is interested in knowing whether this will get rid of the toothaches.

Again, if these conditions do not hold, the example becomes anomalous, i.e., either a gratuitous inquiry, or unnecessary, or unmotivated.

Thus we see that relational propositions, as asserted or questioned illocutionary acts, are subject to the same felicity conditions as are explicitly stated assertions and questions: thus viewing them as having the corresponding illocutionary force is consistent with such conditions.

3.3.4 Social responsibility

Finally, a fourth line of evidence that relational propositions are used in communicative acts is that many of the same sorts of social responsibility arise from these relational illocutionary acts as from explicitly conveyed acts. Thus, if you say "It's raining," and I look outside and see that it is not raining, I can come back and say, "But you said it was raining." Similarly, if you say text 4,

Do you want to get your Easter tan early, even in the rain? Come to
the TANNING CONNECTION in Sherman Oaks.

and I go to the TANNING CONNECTION and don't get the tan I want, I can come back to you and say, "But you said that going to the TANNING CONNECTION would give me an Easter tan!" Relational propositions, then, seem to carry similar sorts of social responsibility as do explicit assertions.¹⁷

We also note in passing that relational propositions are also like propositions involved in other sorts of illocutionary acts in that they are available for various kinds of inference processes. In showing that relational propositions tend to be basic, we exhibited cases in which these propositions led inferentially to others.

In this section we have demonstrated that relational propositions are communicated with the illocutionary force of assertions or questions, by showing that the characteristics claimed for other such acts hold for them as well.

Here, finally, we have grounded the metaphor that relational propositions "arise." They become part of the reader's tacit understanding of the text as elements of communicative acts performed by the writer.

3.4 Relational propositions are not limited to organizational aspects of texts

Even though the relational propositions arise in some sense spanning internal boundaries of a text, being inherently combinational, they do more than simply relate parts of text. That is, they do not simply deal with adjacency, textual precedence, boundaries of parts of text, or other matters which might be derived from the contributing parts. Instead, they convey essential subject matter. Thus, the relational propositions we are describing here are not limited to organizational aspects of texts, but are involved deeply in relating subject-matter-specific conceptions to each other.

¹⁷ In these terms we recognize that presuppositions sometimes also fulfill these conditions and carry assertional force. The effect is somewhat different for both relational propositions and presuppositions than the effect of propositions represented directly in clause structure, a lawyer could exploit the difference. See Section 4.1

The examples of "solutionhood," "condition," "circumstance," "enablement," "elaboration," "motivation," and others above exhibit relationships in the subject matter rather than relationships which arise from the way the subject matter is presented. These examples also help to establish that the arguments in a relational proposition are not literal texts, but rather more conceptual entities derived from the text.

3.5 Relational propositions are essential to the effective functioning of a text

A final property of relational propositions is the vital role they play in determining whether or not a text functions. That is, we find that if we imagine a way of reading one of our texts without its relational propositions, we do not have a coherent text. For example, if we take text 8 once again,

I'm Officer Krupke. You're under arrest.

and try to read it without the relational proposition of "justification," we are left with a pair of sentences which cannot be interpreted together as a unit. That is, without the relational proposition (and since no other relational proposition is suitable), the addressee wouldn't know what being Officer Krupke has to do with the arrest performative.

Similarly, example 17,

I'll give you a free tour of the development. My phone number is 555-9876.

requires the "enablement" relational proposition for it to function as a text: If we try to interpret this text without that relational proposition, we have a pair of unconnected propositions, and questions such as, "Why are you giving me your phone number?" become appropriate.

These examples suggest that relational propositions are vital to the way a text functions; the analysis of the two texts below in Section 6 strongly supports this point; a study of more than 50 short texts reveals the same sorts of breakdowns in texthood when relational propositions are suspended.

4. NONCLAUSAL SOURCES OF PROPOSITIONS

In the literature there are several recognized ways in which propositions can be conveyed by text without being represented directly by clause structure. We now examine three of the most prominent ways, to see whether the literature treats relational propositions as a variety of one of these, and to see whether it would be appropriate to expand the terminology of any of these categories to include relational propositions.

4.1 Presuppositions

It might be thought that because presuppositions involve implicit propositions, a theory of presuppositions could provide an explanation of relational propositions. We noted above that presuppositions share with assertional relational propositions many of the characteristics of assertions. Nevertheless, as represented by the current literature, the two are quite distinct. Two features distinguish them clearly. First, relational propositions are inherently combinational, whereas presuppositions are not. If we say

God loves you.

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we have presupposed the existence of God simply by using the lexical item "God," not by the way that two regions combine.

In discussions of presupposition, either truth-conditional or pragmatic issues are central. truth-conditional discussions typically treat predicates such as existence, factuality, and belief, while pragmatic approaches are stated in terms of challengeability.¹⁸ There seems to be no natural way to introduce the diversity of relational predicates into an existing presuppositional framework.

4.2 Implicature

In his provocative and stimulating 1975 paper [Grice 75], Grice introduced the notion of "conversational implicature" into the literature. According to Grice, when speaker A says "I am out of petrol" and speaker B responds with "There is a garage round the corner," B is complying with the maxim "Be relevant" by implicating that the garage is open, has petrol to sell, etc. Underlying his discussion is the generalization that at least part of the connectivity of conversational discourse is due to speakers' attempts to be cooperative with each other, in accordance with a "Cooperative Principle" which he states as follows:

Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged. [Grice 75:45]

Relational propositions seem to be similar to conversational implicatures, though it is difficult to determine whether a theory of implicature could actually account for relational propositions, since no very well formulated version of such a theory exists.

On a narrow reading of Grice's paper, taking the term "conversational" seriously, it is clear that conversational implicatures are not the same as relational propositions, since implicatures are claimed to arise between speakers rather than in discourse produced by one person. However, it has generally been the case since the circulation of this paper in the late 1960s that "conversational" has not been taken in the narrow sense: the "Cooperative Principle" and its four maxims have been typically understood to be involved in the coherence of discourse of any type. On this view, all coherent discourse, whether across speakers or produced by one speaker, can be characterized by the relatedness of its parts, and this relatedness can be accounted for by the "Cooperative Principle."

We are entirely sympathetic with the goal of understanding the ways in which coherence in conversational and monologue discourse are similar. Thus if we adapt Grice's example above to monologue, we have an example such as this:

I am out of petrol. There is a garage round the corner.

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Now we notice that exactly the same relationship (our "solutionhood") holds between the utterances of Grice's dialogue as between the sentences of our monologue. However, it is not so clear to us that "relevance" can be usefully thought of as derived from "Cooperation," since it is so difficult to associate any content with the latter term. Given a strict interpretation, there is no "Cooperation" when only one person is doing something, even when he or she is doing it with the aim of affecting other people. Under a wider interpretation, the term becomes vacuous, since many texts and monologues to which people are exposed do not reflect "Cooperation" in any intuitive sense of the word. A coercive or manipulative text or monologue, for example, which is trying to get the reader to do something which he or she very well might not want to do (see the two texts discussed in Section

¹⁸For recent discussions of truth-conditional approaches, see [Kempson 75], [Wilson 75], and papers in [Oh and Dineen 79] and [Smith 82]. For a pragmatic approach, see especially [Givón 82] and [Shankland 81].

5, for example), would seem to exhibit very few of the hallmarks of "Cooperation." Our conclusion, then, is that Grice's conversational deductions do not in fact depend on any cooperative principle, since something very similar to these deductions arises in monologue quite independently of any reasonable construal of the notion of "Cooperation."

It would be possible to use one of Grice's terms (perhaps "relevance") as a covering term for the phenomena of relational predicates, relational propositions, and relational illocutionary acts, simply on the basis that they explicate perceived connectivity in text. However, at the present level of technical characterization there does not seem to be any advantage in doing so.

4.3 Indirect Speech Acts

It might be thought that the phenomenon of relational propositions can be accounted for by a theory of "indirect speech acts" [Searle 75]. However, once again, while there are similarities between the phenomenon of indirect speech acts and that of relational propositions, there are important differences. The most important of these is that indirect speech acts have been defined or at least treated exclusively as performed by single utterances. What Searle was discussing are cases in which "sentences, which have one illocutionary force as part of their meaning, can be used to perform an act with a different illocutionary force" (p. 71). Relational propositions, on the other hand, are a combinational phenomenon. Their bases are not single sentences, and they cannot arise except between two parts of a text, minimally between two sentences.

5. OTHER ACCOUNTS OF SIMILAR RELATIONS

Have relational propositions and their status as acts already been recognized? Is the material above simply a variant descriptive perspective on previous accounts? This paper draws on several previous studies, which have developed similar descriptions, especially of relations, but goes beyond them. This section relates our work to the previous studies.

5.1 Beekman and Callow's "Relations between Propositions" and Longacre's "Combinations of Predication"

Both Beekman and Callow's and Longacre's discussions of interpropositional relations, as we mentioned above, have influenced our work [Beekman and Callow 74], [Longacre 76]. Beekman and Callow's Chapter 18, building on a number of earlier studies of this topic in the literature on Bible translation (see their footnote 2, p. 291), attempts to describe "a system of relations between propositions in the context of a discourse" (p. 287). Similarly, Longacre's Chapter 3

...is essentially a reordering, revision, and expansion of the "taxonomy of the deep structure of interclausal relations" which has already been given in a few other places: (p. 100)

here he acknowledges Grimes [Grimes 75] (see immediately below for our discussion), as well as Beekman and Callow and the earlier references they cite. The taxonomies offered by these linguists, then, are quite similar to each other, and they contain relationships which we assume to underlie our relational propositions. Taking these descriptive taxonomies as a starting point, we have constructed an account of these relationships in which they play a role in communicative acts.

5.2 Grimes' Rhetorical Predicates

The other primary source of inspiration for this study, as we pointed out in the introduction, is Grimes' discussion of rhetorical predicates (Chapter 14 in [Grimes 75]). We have also drawn on McKeown's use of his work [McKeown 82].

Grimes has the following view of the role of rhetorical predicates in a theory of discourse:

...the choices a speaker has available within the content system can be expressed by means of PROPOSITIONAL structures. Each proposition contains a PREDICATE, which expresses a semantic relation among ARGUMENTS, which may themselves be propositions....The predicates whose arguments involve role specifications directly are the ones I call LEXICAL; the one that underlies English *eat* is an example. Those whose arguments are related in other ways I call RHETORICAL; the one that underlies English *because* is an example. (pp. 115-16)

From this characterization, it is clear that Grimes is discussing the sorts of relationships that we are calling relational predicates. In spite of such locutions as "the predicate which underlies *because*," his examples show that he does not intend that all rhetorical predicates be realized by explicit structural elements. We have been deeply influenced by his analysis of these relationships and have tried to pursue some of the implications of his discussion in this paper.

5.3 Martin's "Conjunctive Relations"

Taking Halliday and Hasan's excellent discussion [Halliday & Hasan 76] of "conjunction" as his starting point, Martin [Martin 83] proposes a detailed systemic analysis of English conjunctive relations. For him, "CONJUNCTION is the semantic system whereby speakers relate clauses in terms of temporal sequence, consequence, comparison, and addition." (p. 1) He goes on to acknowledge that "these 'logical' relations may or may not be made explicit." (p. 1) The types of relations Martin is considering are similar to those we are claiming to underlie relational propositions, but Martin's treatment of them differs from ours in several respects. First, the set of relations Martin recognizes is restricted to those which happen to be potentially realizable "through two out of the three TAXIS patterns" (p. 4), where by "taxis pattern" he means (p. 3) one of three syntactic relations:

1. nonsubordinating
2. subordinating finite
3. subordinating nonfinite

Thus, for Martin, a conjunctive relation is recognized only if it can be realized by an adverbial or phrasal signal of one of these types of clause-connecting patterns. It is our claim, however, that relational propositions exist independently of any explicit signals, and further that some types of relational propositions have no corresponding conjunctive signals.

Second, in our view, but not in Martin's, relationships between parts of a text are best viewed as parts of elements in communicative acts, which function to achieve certain goals on the part of the speaker, rather than as elements of a taxonomy in a "semantic system." Our relational predicates correspond to his conjunctive relations, but he does not have correlates for relational propositions or relational illocutionary acts.

Despite these differences, Martin's work remains a valuable source of information about interpropositional relations.

5.4 Hobbs' Coherence Relations

As part of a series of studies of coherence spanning both dialogue and monologue, Hobbs characterized a set of classes of "coherence relations," including Strong Temporal Relations, Expansion Relations, Evaluation Relations, and Linking Relations [Hobbs 79] [Hobbs 77], [Hobbs 78a]. Within these classes, many of the particular relations resemble relational propositions. In [Hobbs 78b], Hobbs applies the relations to analyze the coherence of a conversation between two strangers, in which coherence relations apply both within each monologue and between dialogue turns.

The most salient difference between his coherence relations and relational propositions is that he does not explicitly develop claims about entities corresponding to relational predicates and relational illocutionary acts. The expectation that propositional character and assertional force accompany the relations is clear in his descriptions e.g., from [Hobbs 78b]:

For example in

This paper is weak but interesting.

from the first clause we would normally infer that it is unpublishable, from the second we can normally infer that it is not unpublishable. It is the second that the Speaker intends to stand behind.

5.5 van Dijk's "Semantic Relations"

In his discussion of sequences of speech acts, van Dijk [van Dijk 80] mentions some of the relationships which underlie our relational propositions, referring to them as "semantic relations between propositions." (p. 53) From examples such as this,

John can't come. He is sick. (p. 49)

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which van Dijk claims expresses a relation of "explanation," it is clear that he has in mind relations similar to those discussed in this paper, which we derive from Grimes and from some of the earlier work noted above. Yet van Dijk distances himself from Grimes by pointing out that Grimes' rhetorical predicates include several types (e.g., "semantic" vs. "pragmatic"), which he (van Dijk) is trying to distinguish. However, inasmuch as these distinctions are (by his own admission) not easy to make, we do not take the difference between van Dijk and Grimes to be very great in this respect.¹⁹

5.6 An Adequate Account

In this section we have shown that, despite resemblances between relational propositions and other sorts of implicit propositions which have been recognized, the existing literature does not predict that relational illocutionary acts arise, nor does it account for their recurrent properties. Although in this paper we have taken the first steps towards such an account, there is much more to learn about relational propositions; continued study of the phenomenon is clearly within the traditional scopes of linguistics and related disciplines. Any full explanation of the phenomenon of relational propositions should have at least the following characteristics:

- It predicts when they arise.
- It explains what causes different predicates to be perceived in different places.

¹⁹ The thrust of van Dijk's paper, as well as of [Ferrara 80a] and [Ferrara 80b], is to show how the interpretations of explicit speech acts in discourse is influenced by adjacent speech acts

- It explains how the range of particular predicates and propositions arises, at least up to the diversity shown by our examples.
- It explains how the propositions arise from the literal text, predicts what consequences they have for the interpretations of other parts of the text, and explains how the evocation of relational propositions is part of the interpretations of the literal text.
- It tells how they relate to recognized linguistic phenomena, e.g., clause combining, conjunctions, and cohesion and coherence notions
- It tells in what ways they are culture-bound and predicts cross-cultural misunderstandings.

All of these characteristics are within the general scope of knowing how language functions, and of identifying the pressures on language for continuity, change, and explicit form.

6. EXAMPLES OF RELATIONAL PROPOSITIONS IN ACTUAL TEXTS

Up to this point we have been using artificially constructed examples to make our point that relational propositions exist and are a phenomenon to be accounted for in an adequate theory of discourse. Now we would like to illustrate a few of them as they function in texts.

6.1 Syncom Advertisement²⁰

First, consider the following text, an ad from BYTE magazine:

1. What if you're having to clean floppy drive heads too often?
2. Ask for SYNCOM diskettes, with burnished Ectype coating and dust-absorbing jacket liners.
3. As your floppy drive writes or reads.
4. a Syncrom diskette is working four ways
5. to keep loose particles and dust from causing soft errors, dropouts.
6. Cleaning agents on the burnished surface of the Ectype coating actually remove build-up from the head,
7. while lubricating it at the same time.
8. A carbon additive drains away static electricity
9. before it can attract dust or lint.
10. Strong binders hold the signal-carrying oxides tightly within the coating.
11. And the non-woven jacket liner, more than just wiping the surface, provides thousands of tiny pockets to keep what it collects.
12. To see which Syncrom diskette will replace the ones you're using now,
13. send for our free "Flexi-Finder" selection guide and the name of the supplier nearest you.
14. Syncrom, Box 130, Mitchell, SD 57301. 800-843-9862; 605-996-8200.

The text has been decomposed roughly into clause-length units which have been numbered

²⁰From an advertisement by Syncrom appearing in the June, 1982 issue of BYTE magazine. Copyright © 1982 Byte Publications, Inc. Used with the permission of Byte Publications, Inc.

for ease of reference. For convenience, we refer to them as clauses, even though some of them are clearly not clauses.

This text gives rise to a number of relational propositions. Starting at the top, we see a "solutionhood" relationship between clause 1 and the rest of the text. That is, the whole text after the "What if" question is offered as a solution to the problem of having to clean floppy drive heads too often.²¹ Another relational proposition can be seen involving clause 2: that of "motivation," in which clause 2 gives a directive ("Ask for Syncrom diskettes") and clauses 3 through 11 provide motivation for the addressee to comply with the directive. It is clear that this relational proposition does not simply relate clauses 2 and 3, but instead has all of the text from 2 through 11 in its scope. This section of the text, then, allows a particularly clear illustration of the scope of relational propositions. Our artificial examples were all just two sentences in length, which could suggest that relational propositions are essentially just "interclausal" relations. This text, however, makes it clear that they cannot be viewed as "interclausal" in the sense of being defined on clauses, but must rather be seen as relating entire portions of texts.

Another kind of relational proposition arises involving clauses 4 through 5 and 6 through 11. This is the "elaboration" relationship, in which clauses 4 through 5 give a generalization, including the phrase working four ways, and clause groups 6 through 7, 8 through 9, 10, and 11 respectively provide each of the four ways in which the diskette is working to keep drive heads clean. Thus the text reveals four "elaboration" relational propositions, which relate each of the four "ways" to the generalization in 4 through 5. (The last one of these, incidentally, is marked with the morpheme *and* at the beginning of 11.)

Near the end of the text we find three more relational propositions. Clauses 12 and 13 through 14 stand in a "solutionhood" relationship: the purpose clause, signalled by the infinitive in 12, names a problem to which 13 and 14 are offered as a solution. But the group composed of 12, 13, and 14 itself stands in an "enablement" relationship with clauses 2 through 11. That is, 12, 13, and 14 provide the reader (in a somewhat indirect way) the information he needs to enable him to comply with the directive. In this way, the three clauses provide "enablement" for clauses 2 through 11, the part of the text which tells the reader what to do and why. Finally, within this three-clause group expressing "enablement" is another "enablement" relationship with a smaller scope: what we have called "clause" 14, actually the address of the Syncrom company, enables the reader to actually send for the selection guide and name of his nearest supplier, the action in clause 13.

So far, our analysis of this text has revealed seven unsignalled relational propositions and two signalled ones. In addition to these, we can recognize four signalled relational propositions whose scopes are smaller. First, clauses 4 and 5 stand in a "purpose" relationship, marked by the infinitive in 5. Clauses 4 through 5, in turn, are related to clause 3 by the "circumstance" relational proposition, which is signalled by *as*. Clauses 6 and 7 are also in a "circumstance" relationship, this time signalled by *while*. Finally, a "thesis-antithesis" relational proposition relates clauses 8 and 9: the writer of the ad is expressing non-identification with the idea that static electricity attracts dirt (in clause 9, signalled by *before*), while affirming the idea that the carbon additive drains away the static electricity.

In this advertisement text, then, we have seen that 13 relational propositions provide the

²¹This proposition, and in fact all of the relational propositions in both of these texts, occurs with assertional force

connective tissue for the 14 clauses in the text, since all of the clauses are involved in relational propositions and the pattern of involvement is such that the relational propositions connect the clauses into a single network. Furthermore, each of the relational propositions contributes in an essential way to the texthood of the text in the manner suggested in Section 3.5 above. Analysis of the following text yields a similar conclusion.

6.2 Common Cause - CON position²²

We will consider another text to illustrate the function of relational propositions: this is an "editorial" from The Insider, the newsletter for the California section of Common Cause. The author of this text was trying to persuade California Common Cause members not to get involved with the Nuclear Freeze Initiative, which was on the California ballot for the next election. Again, the text has been decomposed into numbered clause-like units for exposition purposes.

1. I don't believe that endorsing the Nuclear Freeze Initiative is the right step for California CC.
2. Tempting as it may be,
3. we shouldn't embrace every popular issue that comes along.
4. When we do so
5. we use precious, limited resources where other players with superior resources are already doing an adequate job.
6. Rather, I think we will be stronger and more effective
7. if we stick to those issues of governmental structure and process, broadly defined, that have formed the core of our agenda for years.
8. Open government, campaign finance reform, and fighting the influence of special interests and big money – these are our kinds of issues.
9. (New paragraph) Let's be clear:
10. I personally favor the initiative and ardently support disarmament negotiations to reduce the risk of war.
11. But I don't think endorsing a specific nuclear freeze proposal is appropriate for CCC.
12. We should limit our involvement in defense and weaponry to matters of process, such as exposing the weapons industry's influence on the political process.
13. Therefore, I urge you to vote against a CCC endorsement of the nuclear freeze initiative.

(signed) Michael Asimow, California Common Cause Vice-Chair and UCLA Law Professor

Again, a number of relational propositions arise in this text. If we take the final clause (13) as a directive, namely that we California CC members should not vote to endorse the Nuclear Freeze Initiative, then the entire rest of the text, clauses 1 through 12, can be seen as motivating us to comply with this directive. A relational proposition of "motivation" can thus be said to relate clause 13 to everything that precedes it. This relational proposition happens to be signalled in this case, albeit with a conjunction (*therefore*) which is not typically described as including "motivation" as part of its "meaning."

²²From The Insider, California Common Cause state newsletter, 21, July, 1982, used with permission of The Insider and Michael Asimow.

Next, going back to the beginning of the text, taking clause 1 as a claim, we can see that all of what follows it, through clause 12, is being presented as evidence for that claim, i.e., "here's why you should believe my claim that endorsing the Initiative is wrong for CCC." In fact, a closer look shows that the text contains two pieces of evidence for the claim: the portion containing clauses 2 through 8 and the portion containing clauses 9 through 12. In the latter case we see that the portions related by a relational proposition need not be adjacent.

A bit farther down in the text, we find a "reason" relational proposition between clauses 2 through 3 and 4 through 5; that is, clauses 4 through 5 are presented as a reason for the assertion made in clauses 2 through 3.

Clause 8, which names CC's *kinds of issues*, offers some specific instances of *those issues of governmental structure and process* in clauses 6 through 7; thus we have an "elaboration" relational proposition arising between clauses 6 through 7 and 8.

The relationship between clauses 9 and 10 through 12 is an interesting one: clause 9 seems to us to be justifying the assertions being made in clauses 10 through 12. That is, the author is justifying rearguing (in 11 and 12) the point he just made in the first paragraph, that CCC shouldn't endorse the Freeze Initiative, by clarifying (*Let's be clear!*) the tension between his personal positive stance toward the initiative and his belief that CCC should stay away from it. So we can identify a "justification" relational proposition between clauses 9 and 10 through 12.

Clause 10, in turn, is in a "concession" relationship with clauses 11 through 12: that is, the author concedes, as a point of argument, that the Initiative should be supported, but asserts that this *does not detract from the force of his central point*, that CCC should not be endorsing it. In this case the "concession" relational proposition is signalled (as is typical) by the conjunction *But*.

So far then out of 13 explicit clauses we have found 5 implicit relational propositions and 2 explicitly signalled relational propositions. There are 5 additional explicitly signalled relational propositions, as follows. Between clauses 2 and 3, we find a relationship of "concession," signalled by the participial *removing as it may be*. Clauses 4 and 5 are in a "condition" relationship, signalled by *when*. Clauses 2 through 5 express a "thesis" (embracing every popular issue) which contrasts with the "antithesis" in clauses 6 through 8 (sticking to our old issues), so that a "thesis-antithesis" relational proposition arises between the two groups. Clauses 6 and 7 are in a "condition" relationship signalled by */*. And finally, clauses 11 and 12 are in a "concession" relationship, signalled by *but*.

Examining this set of relationships, we find that *the extent of the relations is such that they collectively connect together the entire text*, just as they did for the Syncrom advertisement. Again, they all seem essential to the texthood of the text. If this pattern proves to hold generally, as our research suggests, then unexpressed relational propositions and the factors which bring them into being will play a very significant role in accounting for text connectedness, coherence, and text function. In this view, the conjunctions and other relational signals, far from being isolated additions to the so-called "message," are explicit indicators of a kind of structure which pervades text whether conjunctions are present or not. In fact, natural texts show that conjunctive relationships are pervasive and that conjunctions themselves are simply occasional surface hints of this pervasive substratum, rather like the way in which an erupting volcano allows us a glimpse of the molten substratum which is "down there" underneath everything.

7. CONCLUSION

In this paper we have presented a discourse phenomenon, called "relational propositions," whereby implicit propositions arise from combinations of clauses in the text. These relational propositions are quite often un signalled, but they seem to play a major role in binding the text together and making it function.

As we suggested above, one of the implications of this view is that a theory of discourse is more likely to succeed in explaining the nature of texthood by proceeding from the assumption that the relationships between parts of the text are a crucial factor binding the text together, rather than the assumption that it is the "meanings" of conjunctive elements which need to be accounted for. In fact, we would suggest that what natural texts show is that it is the conjunctive relationships which are pervasive, with explicit conjunctions as occasional manifestations.

Understanding relational propositions and relational illocutionary acts, and their functions, can provide insight into a number of problems in and near linguistics. This understanding obviously has a potential role in developing a theory of discourse. It provides a potential basis for a new understanding of conjunctions, and it suggests a new perspective for studying coherence. It also makes new testable predictions about the effects of texts on hearers. It could be used as a relatively abstract element of style analysis, either for individuals or for cultures. Similarly, it has potential relevance for rhetoric, functional linguistics, and philosophy of language, including speech act theory, and for computational operations on language, such as text generation.

A theory of discourse based on relational propositions and relational illocutionary acts has obvious applications to anthropology and cross-cultural investigations (e.g., What is the anthropological significance of the fact that American English has a "solutionhood" relational predicate, but no corresponding conjunction?). In more applied areas, it could be used as part of a method for discerning implicit communication in, say, political speeches, or in analyzing miscommunication. Similarly, it could have an interesting place in teaching a subject such as business communication to non-native speakers. It could be useful in translation, in teaching writing, or in analysis of the nonliteral force of legal language. Of course, all of these uses depend on moving this sort of knowledge beyond the present stage.

We also recognize that we have not answered a number of questions which might be raised about this phenomenon; for example, a full explanation of just how and when these relational propositions arise is not yet at hand. However, our characterization of this phenomenon suggests that researchers attempting to understand discourse, particularly texthood, may have been seriously underestimating their task. With relational propositions in such a pervasive and vital role, the probability that language comprehension will turn out to rest on some simple compositional view of meaning seems extremely small. That is, accounting for all the clauses in the text is only part of the account of the text, a bit like a theory of a wall in which we had an account of the bricks without an account of the mortar. Our theories of discourse must also be concerned with the implicit, but essential, relational acts that are as much a part of how the text functions as are its explicit sentences.

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